

University of Groningen

## The De Novo Design of Synthetic Oxygenases.

Choma, C.T.; Robillard, G.T.; Schudde, E.; Feringa, B.

*Published in:*  
Journal of Inorganic Biochemistry

*DOI:*  
[10.1016/0162-0134\(95\)97505-K](https://doi.org/10.1016/0162-0134(95)97505-K)

**IMPORTANT NOTE:** You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
1995

[Link to publication in University of Groningen/UMCG research database](#)

### *Citation for published version (APA):*

Choma, C. T., Robillard, G. T., Schudde, E., & Feringa, B. (1995). The De Novo Design of Synthetic Oxygenases. *Journal of Inorganic Biochemistry*, 59(2). [https://doi.org/10.1016/0162-0134\(95\)97505-K](https://doi.org/10.1016/0162-0134(95)97505-K)

### **Copyright**

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

### **Take-down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

*Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.*

**H48 THE *DE NOVO* DESIGN OF SYNTHETIC OXYGENASES.**

**C. T. Choma, G. T. Robillard, E. Schudde and B. Feringa**

*Depts. of Biophysical Chemistry and Organic Chemistry, University of Groningen,  
Nijenborgh 4, 9747 AG Groningen, The Netherlands*

A ligand has been described previously in which four pendant pyridine groups attached to a central tertiary amine bind an  $\text{Fe}^{\text{II}}$  ligated to the single axial and four equatorial nitrogens of the complex. This ligand catalyzes the oxidation of a variety of substrates in the presence of hydrogen peroxide. The aim of the present work is to design and synthesize oxygenases specific for a narrow range of substrates. Proteins with substrate-specific binding pockets are being designed, and methodologies for covalently coupling the proteins through specific attachment sites to the catalytic ligand are being developed and will be described.